

## **WHAT IS CLAIMED IS**

1. A method of fabricating a thin film capacitor, the method comprising the steps of:

5 forming a first via and a second via which are isolated with a predetermined distance by selectively etching an interlayer insulating film formed over the entire structure of a semiconductor substrate;

filling in the first via and the second via with a first metal material;

10 forming a capacitor window by etching the interlayer insulating film between the first via and the second via to have a predetermined depth;

forming a dielectric layer on an inner wall; and

forming a second metal material to fill in the capacitor window.

15 2. The method of claim 1, wherein the first via and the second via is formed by applying a photoresistive film on the interlayer insulating film and exposing and developing the photoresistive film to form a photoresistive film pattern which exposes a portion of the interlayer insulating film where the first via and the second via having linear shape are to be formed, and then etching the exposed interlayer insulating film using the photoresistive film pattern as a mask to form the first via and the second via.

20 3. The method of claim 2, wherein the first via and the second via is filled with the first metal material by depositing tungsten over the entire upper surface of the interlayer insulating film including the first via and the second via to fill in the first via and the second via, and then carrying out a planarization process of a CMP (Chemical Mechanical Polishing) until the interlayer insulating film is exposed.

25 4. The method of claim 3, wherein the dielectric layer is formed by forming a dielectric layer on the entire upper surface of the first metal material and the interlayer insulating film and forming the second metal material on the dielectric layer to fill in the capacitor window, and then carrying out the planarization process of a CMP until the interlayer insulating film and the first material are exposed.

30 5. The method of claim 1, wherein the second metal material is formed of one selected from a group consisting of W, Ti, TiN, and Al.

6. The method of claim 2, wherein the second metal material is formed of one selected from a group consisting of W, Ti, TiN, and Al.

5 7. The method of claim 3, wherein the second metal material is formed of one selected from a group consisting of W, Ti, TiN, and Al.

8. The method of claim 4, wherein the second metal material is formed of one selected from a group consisting of W, Ti, TiN, and Al.

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